

Biological Production of Hydrogen

DOE Office of Science,
Office of Biological and Environmental
Research

John Houghton

6/2/03: DOE Hydrogen and Fuel Cells Coordination Meeting

301-903-8288

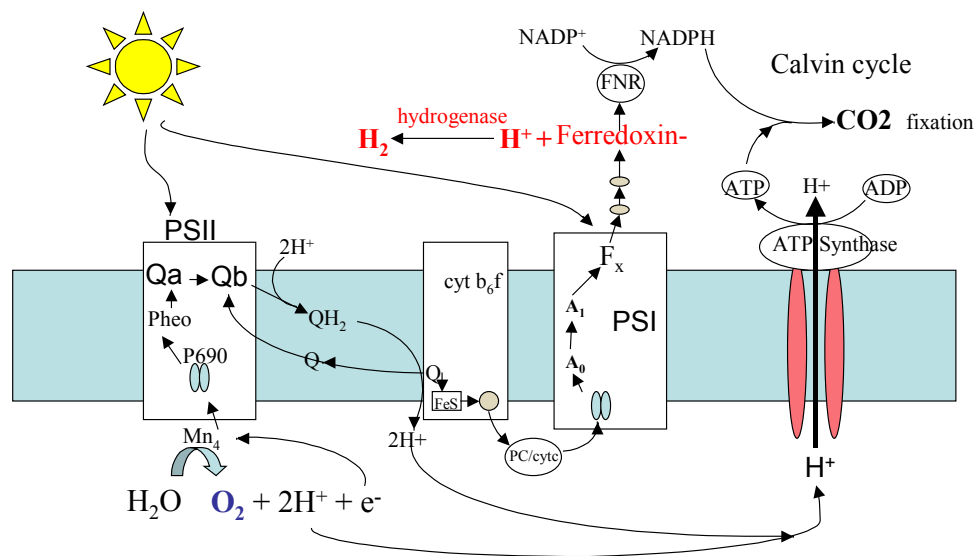
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Office of Science
U.S. Department of Energy

Biology transforms energy in a series of reactions

Photosynthesis in plants and cyanobacteria



**Water plus sunlight plus carbon dioxide
goes to oxygen plus biomass and hydrogen**



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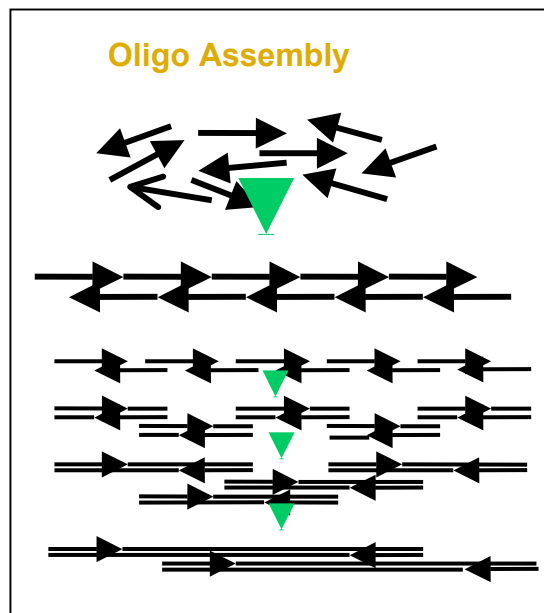
Advanced Biological Techniques

Environmental Sampling: Microbial Communities

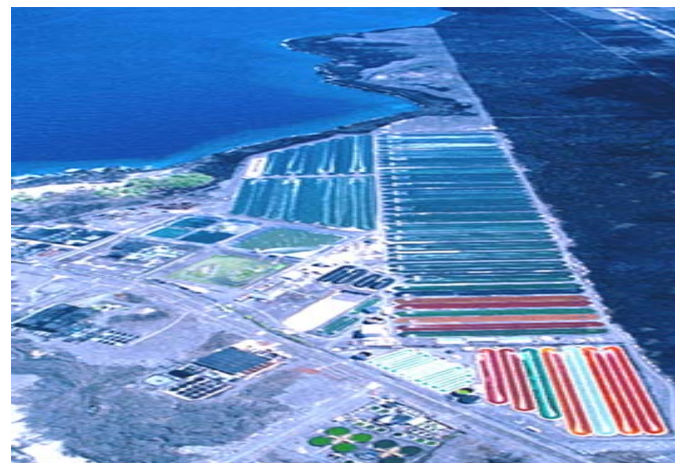


Source: Frank Dazzo, Center for
Microbial Ecology, Michigan State
University

Artificial Chromosome: Minimum Genome



Applications: Algae Ponds



Microalgae production facility of
Cyanotech, Inc. in Kona, Hawaii.

Source: Smith et al., IBEA